AMENDMENTS TO THE CLAIMS

Please amend the claims as indicated below. The language being added is underlined ("__") and the language being deleted contains either a strikethrough ("——") or is enclosed by double brackets ("[[ ]]").

1. (Currently Amended) An egress rate controller monitoring content traffic transmitted from an edge network node of a packet-switched communications network node comprising:

a. a leaky bucket having an initial maximum number of tokens which decreases as packets are received in an associated output buffer at a reception token rate for transmission, wherein a size of the leaky bucket is less than or equal to a size of the associated output buffer;

b. a plurality of token availability threshold level registers specifying a corresponding plurality of token amounts defining token availability regions; and

c. a packet transmission suppression controller selectively suppressing transmission of a packet having a traffic class association based on a current token availability level being within a token availability region specifying transmission suppression of packets of the traffic class.

2. (Original) The egress rate controller claimed in claim 1, further comprising a classifier classifying received packets in accordance with a plurality of traffic classes.

3. (Original) The egress rate controller claimed in claim 1, further comprising a scheduler delaying packet transmission scheduling in accordance with a packet transmission suppression signal provided by the packet transmission suppression controller.

4. (Original) The egress rate controller claimed in claim 1, further comprising a bucket size register holding a value representative of a maximum number of tokens allocated to the leaky bucket.

5. (Original) The egress rate controller claimed in claim 4, further comprising an output buffer, the size of the leaky bucket, in tokens, being at most equal to the size of output buffer, employing an output buffer larger than the leaky bucket enabling suppression of packet transmission without discarding packets.

6. (Original) The egress rate controller claimed in claim 1, wherein the egress rate controller is associated with an output port of the edge network node.

7. (Original) An communication network node comprising at least one ingress rate controller claimed in claim 1.

8. (Original) An communication network node comprising at least one ingress rate controller claimed in claim 1 associated with at least one output port thereof.

9. (Original) An ingress rate controller monitoring content traffic received at an edge network node of a packet-switched communications network node comprising:

a. a leaky bucket having an initial maximum number of tokens which decreases as packets received at a reception token rate are accepted;

b. a plurality of token availability threshold level registers specifying a corresponding plurality of token amounts defining token availability regions;

c. a plurality of packet discard probability registers, each packet discard probability register specifying a probability with which packets of a specific traffic class are to be dropped when a current token availability level is within a token availability region, and

d. a packet acceptance controller selectively randomly discarding packets having a traffic class association based on the current token availability level being within a token availability region specifying random packet discard of packets of the traffic class.

10. (Original) The ingress rate controller claimed in claim 9, further comprising a classifier classifying received packets in accordance with a plurality of traffic classes.

11. (Original) The ingress rate controller claimed in claim 9, further comprising a bucket size register holding a value representative of a maximum number of tokens allocated to the leaky bucket.

12. (Original) The ingress rate controller claimed in claim 9, further comprising an input buffer, the size of the leaky bucket, in tokens, being at most equal to the size of input buffer, employing an input buffer larger than the leaky bucket providing a slack in the number of packets available for transmission to mask the effects of the ingress rate control effected.

13. (Original) The ingress rate controller claimed in claim 9, wherein the ingress rate controller is associated with an input port of the edge network node.

14. (Original) An communication network node comprising at least one ingress rate controller claimed in claim 9.

15. (Original) An communication network node comprising at least one ingress rate controller claimed in claim 9 associated with at least one input port thereof.

16. (Currently Amended) A method of effecting egress rate control comprising the step of:

selectively suppressing packet transmission for a packet of a particular traffic class when a current token availability level of a leaky bucket tracking packet transmissions is between two token availability threshold levels of a plurality of token availability threshold levels, wherein the token availability threshold levels correspond to predetermined egress rate control responses to bandwidth utilization with respect to packet traffic classes.

17. (Original) The method of effecting egress rate control as claimed in claim 16, wherein selectively suppressing packet transmission, the method further comprises a step of: selectively suppressing packet transmission scheduling.

18. (Original) The method of effecting egress rate control as claimed in claim 17, further comprising a step of: rescheduling the packet for transmission.

19. (Original) The method of effecting egress rate control as claimed in claim 16, further comprising a prior step of: classifying packets in accordance with a plurality of traffic classes.

20. (Original) The method of effecting egress rate control as claimed in claim 16, further comprising a step of:

a. determining whether a plurality of tokens corresponding to a size of the packet are available in the leaky bucket; and

b. selectively suppressing packet transmission if there are insufficiently many tokens available in the leaky bucket.

21. (Original) The method of effecting egress rate control as claimed in claim 20, wherein selectively suppressing packet transmission, the method further comprises a step of: selectively suppressing packet transmission scheduling.

22. (Original) The method of effecting egress rate control as claimed in claim 21, further comprising a step of: storing the packet in an output buffer.

23. (Original) The method of effecting egress rate control as claimed in claim 21, further comprising a step of: rescheduling the packet for transmission.

24. (Currently Amended) A method, of effecting ingress rate control comprising the step of:

selectively randomly discarding packets of a particular traffic class when a current token availability level of a leaky bucket tracking packets is between two token availability threshold levels of a plurality of token availability threshold levels, wherein the token availability threshold levels correspond to predetermined ingress rate control responses to bandwidth utilization with respect to packet traffic classes.

25. (Original) The method of effecting ingress rate control as claimed in claim 24, wherein randomly discarding packets the method further comprises a step of: randomly discarding packets with a corresponding discard probability.

26. (Original) The method of effecting ingress rate control as claimed in claim 24, further comprising a prior step of: classifying packets in accordance with a plurality of traffic classes.

27. (Original) The method of effecting ingress rate control as claimed in claim 24, further comprising a step of:

a. determining whether a plurality of tokens corresponding to a size of the packet are available in the leaky bucket; and

b. selectively discarding the packet if there are insufficiently many tokens available in the leaky bucket.